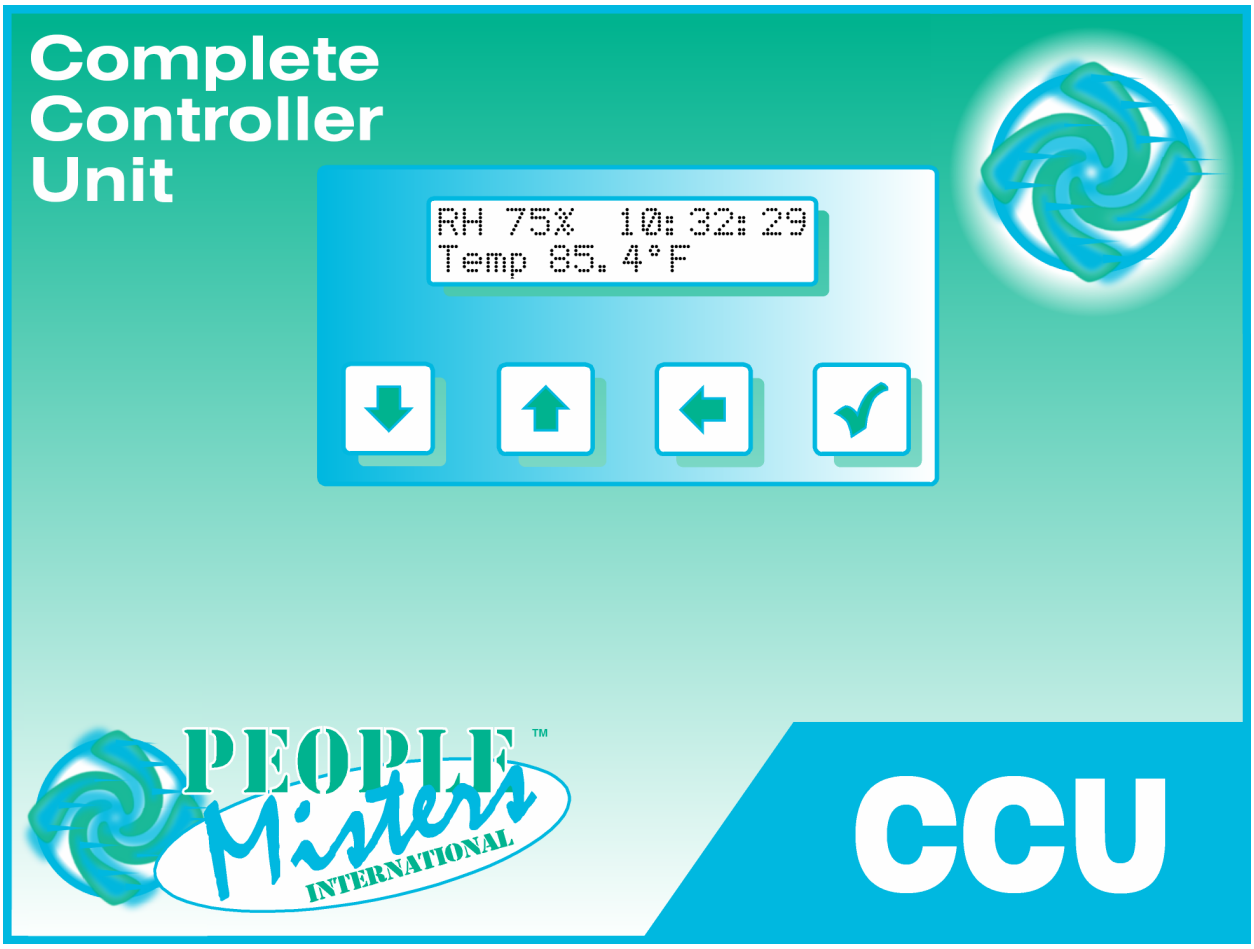

CCU—user manual and installation guide

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Introducing the CCU

People Misters' Complete Control Unit (CCU) is designed to automatically control equipment for indirect evaporative cooling systems. The CCU monitors temperatures and humidity and efficiently and effectively controls the equipment according to user-programmed settings.

The CCU has two relays that can be programmed to control pumps or single-speed fans. With the CCU's active day and active time settings, you can program the control to operate only on certain days of the week and during certain hours of each day. The humidity bypass feature allows you to bypass misting when humidity levels are too high.

The CCU is ideal for greenhouses and many other permanent or temporary, indoor or outdoor facilities. All this from one powerful, efficient, and easy-to-use control!

Features

- Easily-programmable, humidity and temperature-based operation
- Active day and active time programming
- Manual control mode—for testing relays and equipment
- Two relays—for controlling water pumps and single-speed fans
- Temperature probe
- Relative humidity sensor
- Sixteen-character, two-line backlit LCD display—displays status and programming information
- Four-button keypad
- Real-time clock—counts time and days
- Power-failure memory protection
- Rugged enclosure (corrosion resistant, water resistant, and fire retardant)
- CSA approval
- Two-year limited warranty

Electrical ratings

- Input: 115/230 VAC, 50/60 Hz, 1 A
- Relay 1 (RLY 1): 20 A, 1 HP at 115 VAC, 2 HP at 230 VAC
- Relay 2 (RLY 2): 10 A, 1/3 HP at 115 VAC, 1/2 HP at 230 VAC
- Input fuse: 250 V, 1 A fast-acting glass
- Relay 2 fuse: 250 V, 12 A slow-blow ceramic

About evaporative cooling

Indirect evaporative cooling is commonly used in greenhouses, but can also be used in many other types of permanent or temporary, indoor or outdoor facilities.

Indirect evaporative cooling is achieved by evaporating water vapor in the air. Water vapor is placed in the air by a combination of pumps and misters or foggers. As the tiny water droplets evaporate, they remove heat from the air. Fans are often used to increase air movement and help reduce temperatures even more.

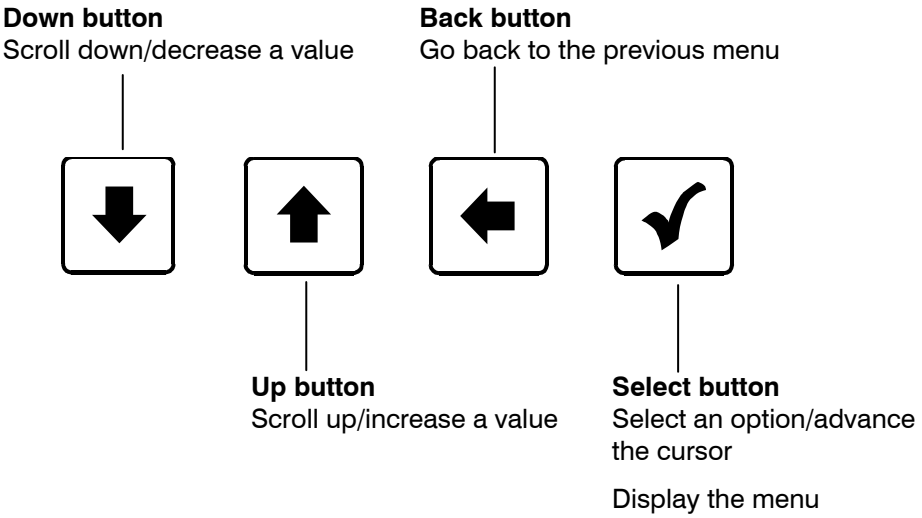
About this manual

The CCU user manual describes the features of the CCU and how to use them. The manual is divided into six sections:

- Introducing the CCU (this section)
- Installing the CCU (on page 5)
- Configuring the CCU (on page 11)
- Programming the CCU (on page 17)
- Using and maintaining the CCU (on page 23)
- Appendices (on page 27)

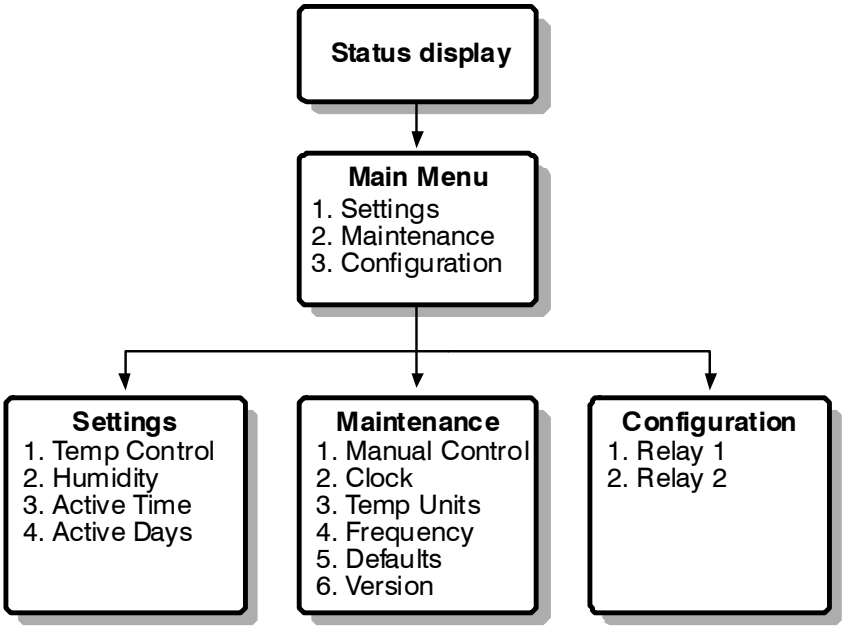
Using the buttons

There are four buttons on the CCU that allow you to scroll through the settings and program the control. Each time you press a button the CCU will make a 'beep' sound.



Using the menu system

The CCU has a menu system that allows you to easily view the control's status, program settings, and configure the control. The diagram below shows the menu order.



To display the menu, press the **Select** button from the main/status display.

Installing the CCU

The following parts are included in the box:

- CCU Complete Control Unit
- Four mounting screws
- CCU user manual

In addition to the parts included with the CCU, you need to provide the following items.

- Enough power cable to go from the incoming power supply to the CCU
- Watertight strain reliefs or conduit connectors at all cable entry points

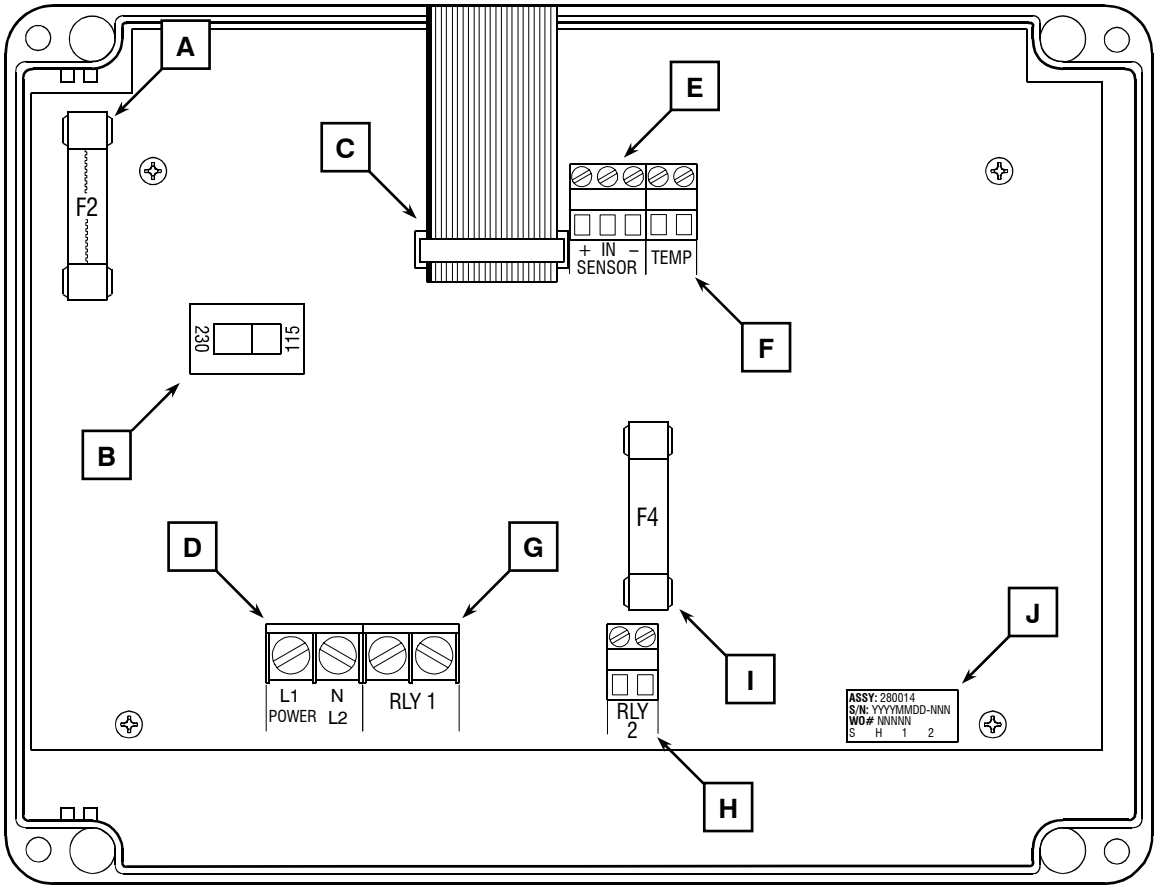
There are four main steps to installing the CCU. Read all the steps before installing the CCU and then follow them steps in the order they are listed.

1	2	3	4
Read all the installation instructions and collect all necessary items.	Select a suitable location and then mount the CCU.	Wire the equipment and incoming power to the CCU.	Verify all wires are connected properly and then fasten the cover to the CCU.

Electrical ratings

- Input: 115/230 VAC, 50/60 Hz, 1 A
- Relay 1 (RLY 1): 20 A, 1 HP at 115 VAC, 2 HP at 230 VAC
- Relay 2 (RLY 2): 10 A, 1/3 HP at 115 VAC, 1/2 HP at 230 VAC
- Input fuse: 250 V, 1 A fast-acting glass
- Relay 2 fuse: 250 V, 12 A slow-blow ceramic

CCU layout



A Incoming power fuse (F2)—250 VAC, 1 A non-time-delay glass fuse.

B Voltage selection switch—make sure you set this switch to the correct voltage before installing your CCU.

C Display cable socket—make sure the ribbon cable from the display is properly connected to this socket.

D Incoming power terminal—connect the incoming power (115/230 VAC, 50/60 Hz) to this terminal.

E Sensor terminal (SENSOR)—connect the Relative Humidity Sensor to this terminal.

F Temperature probe terminal (TEMP)—connect the temperature probe to this terminal.

G Relay 1 terminal (RLY1)—connect equipment to this terminal. You can configure the relay as a pump or fan relay.

H Relay 2 terminal (RLY2)—connect equipment to this terminal. You can configure the relay as a pump or fan relay.

I Relay 2 fuse (F4)—250 V, 12 A slow-blow ceramic fuse.

J Serial number label—if you need to contact People Misters Customer Support or require warranty service, you will need to provide this number.

Warnings and installation notes

The CCU must be installed by a qualified electrician.

Before installing or servicing the CCU, switch OFF the power at the source.

Install the CCU according to local electrical codes.

If any equipment (such as a pump or fan) connected to a relay exceeds the ratings of that relay, you must install a power contactor for switching the load. Failure to do this can damage the control and will void the warranty.

Use the electrical knockouts to bring wires into the enclosure. DO NOT drill any other holes in the enclosure; this could damage the control and void the warranty.

Use watertight strain reliefs or conduit connectors at all cable entry points.

Mounting the CCU

When selecting a mounting location, follow the guidelines below.

- Select a location that is away from sources of heat.
- Mount the control on a solid, vertical surface.
- Mount the control with the electrical knockouts facing down.

Failure to follow the mounting guidelines can allow moisture into the control and will void the warranty.

To mount the CCU

1. Remove the cover from the enclosure.
2. Fasten the CCU to the mounting surface using the fours screws provided.

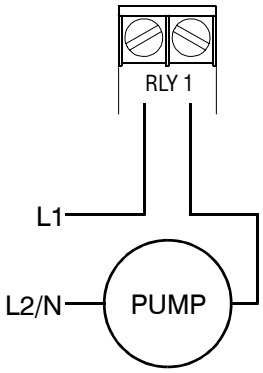
Connecting equipment to the terminals

Connect equipment to the CCU terminals as shown in the following diagrams.

When connecting equipment to the relays, make sure the configuration for relay 1 and relay 2 matches what you have connected to them. For more information, see **Configuring relays** on page 14.

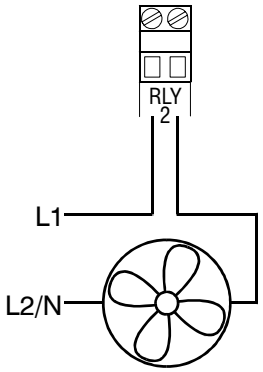
Connecting a pump

You can connect a pump to either RLY 1 or RLY 2. The pump must not exceed the ratings of the relay. Connect a pump as shown below.



Connecting a fan

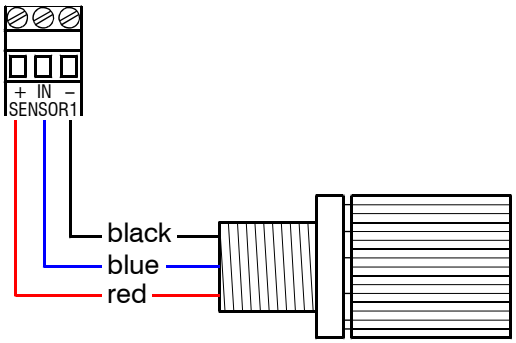
You can connect a fan to either RLY 1 or RLY 2. The fan must not exceed the ratings of the relay. Connect a fan as shown below.



Connecting the humidity sensor

To connect the humidity sensor

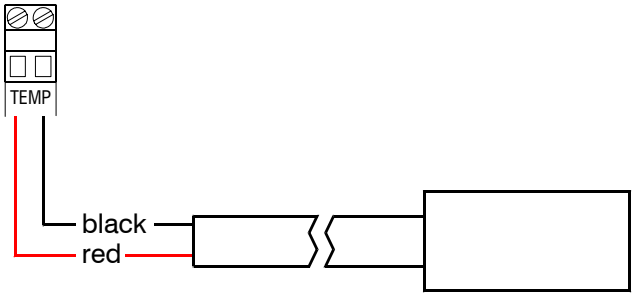
1. Remove the nut from the sensor assembly and then insert the sensor through the large hole in the bottom of the enclosure.
2. Fasten the sensor to the enclosure using the nut.
3. Connect the sensor as shown below.



Connecting the temperature probe

To connect the temperature probe

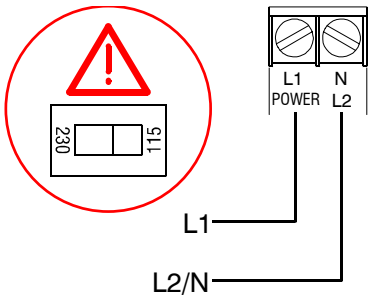
1. Remove the nut from the probe assembly and then insert the probe and strain relief assembly through the small hole in the bottom of the enclosure.
2. Fasten the probe to the enclosure using the nut.
3. Connect the temperature probe as shown below.



Connecting the incoming power

To connect the incoming power

1. Set the voltage selector switch to the correct line voltage (115 or 230 VAC).
2. Connect the incoming power as shown below.



Finishing the installation

To finish the installation

1. Make sure the equipment is properly installed and connected to the correct terminals.
2. Switch on the incoming power at the source.
3. Verify the equipment functions properly (see the tip below).
4. Fasten the cover to the CCU using the four cover screws.

The CCU's Manual Control Mode can help you test the equipment and installation. You do not need to configure the control or program any settings before using Manual Control Mode. For more information, see **Using manual control mode** on page 23.

For care and maintenance tips, see **Maintaining the CCU** on page 25.

Configuring the CCU

After installing the CCU and becoming familiar with the buttons and display, you need to configure the control. Configuring the CCU consists of five steps.

- Selecting the input frequency (below)
- Setting the clock (on page 12)
- Selecting the temperature units (on page 14)
- Configuring relays (on page 14)

Selecting the input frequency

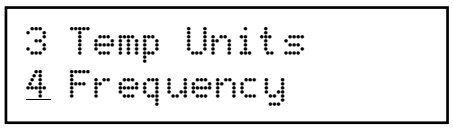
The CCU can operate with either 50 or 60 Hz input power. The default is 60 Hz. If you are using 50 Hz power, you need to change the input frequency setting.

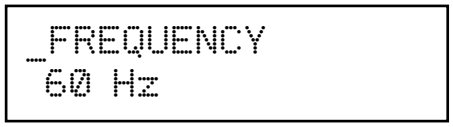
Consult your electrician if you are unsure which input frequency you are using.

If you select the wrong frequency, the internal clock on the CCU will not function properly.

To select the input frequency

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to Frequency and then press **Select**. The current frequency setting is displayed.
3. Press **Up** or **Down** to move to the second line and then press **Select**.
4. Press **Up** or **Down** to change the frequency and then press **Select**.
5. Press **Back** twice to return to the Main menu.





Setting the clock

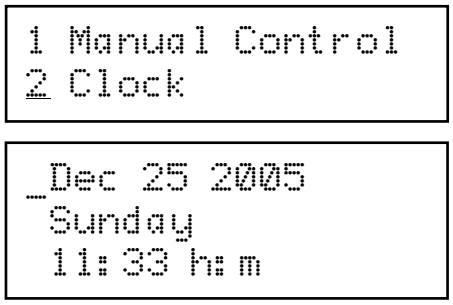
The CCU uses an internal real-time clock to keep track of time and days. The clock counts time (hours, minutes, and seconds) and elapsed days. A 'day' starts at 0 hours, 0 minutes (midnight). The CCU counts the time and when 24 hours has elapsed, it moves to the next day.

The CCU uses 24-hour time. The table below shows some common standard times and their 24-hour equivalents.

Standard time	24-hour time	Standard time	24-hour time
12:00 AM	00:00	12:00 PM	12:00
01:00 AM	01:00	01:00 PM	13:00
02:00 AM	02:00	02:00 PM	14:00
03:00 AM	03:00	03:00 PM	15:00
04:00 AM	04:00	04:00 PM	16:00
05:00 AM	05:00	05:00 PM	17:00
06:00 AM	06:00	06:00 PM	18:00
07:00 AM	07:00	07:00 PM	19:00
08:00 AM	08:00	08:00 PM	20:00
09:00 AM	09:00	09:00 PM	21:00
10:00 AM	10:00	10:00 PM	22:00
11:00 AM	11:00	11:00 PM	23:00

The CCU starts counting time as soon as it is connected to an incoming power supply. If the power fails and the unit has been powered up for at least 24 consecutive hours, the clock will keep the time for approximately one month

To set the clock



1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to Clock and then press **Select**.
3. Press **Select**.
   The cursor moves to the month position.
4. Press **Up** or **Down** to adjust the month and then press **Select**.
   The cursor moves to the day of the month position.
5. Press **Up** or **Down** to adjust the day and then press **Select**.
   The cursor moves to the year position.
6. Press **Up** or **Down** to adjust the year and then press **Select**.
7. If you want to adjust the day, go to step 3 of the next section. If you are finished, press **Back** twice to return to the Main menu.

To set the day

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to Clock and then press **Select**.
   The current clock settings are displayed.
3. Scroll to the second line and then press **Select**.
4. Press **Up** or **Down** to adjust the day and then press **Select**.
5. If you want to adjust the time, go to step 3 of the next section. If you are finished, press **Back** twice to return to the Main menu.

To set the time

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to Clock and then press **Select**.
   The current clock settings are displayed.
3. Scroll to the third line and then press **Select**.
   The cursor moves to the hour position.
4. Press **Up** or **Down** to adjust the hour and then press **Select**.
   The cursor moves to the minute position.
5. Press **Up** or **Down** to adjust the minute and then press **Select**.
6. Press **Back** twice to return to the main menu.

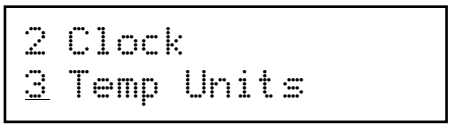
Selecting the temperature units

The CCU can display temperatures in either degrees Fahrenheit or degrees Celsius. The default is Fahrenheit.

If you will be using Celsius for programming set points and displaying temperatures, you need to change the temperature units before programming the control.

To change the temperature units

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to `Temp Units` and then press **Select**. The current setting is displayed.
3. Press **Up** or **Down** to move to the second line and then press **Select**.
4. Press **Up** or **Down** to change the setting and then press **Select**.
5. Press **Back** twice to return to the Main menu.



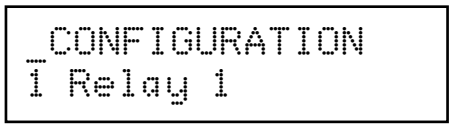
Configuring relays

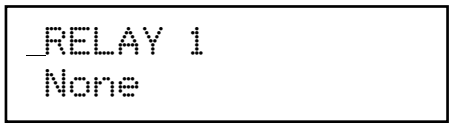
The CCU has two relays you can configure for pump or fan control. The configuration must match the type of equipment connected to the relays.

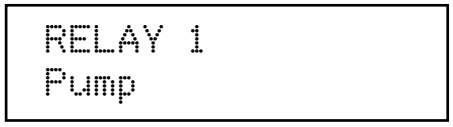
Configuration	Description/use
Pump	Control water pumps
Fan	Control single-speed fans
None	Not used

To configure relays

1. Scroll to the Configuration menu and then press **Select**.
2. Scroll to the relay you want to configure and then press **Select**.
   The current configuration is displayed.
3. Press **Up** or **Down** to move to the second line and then press **Select**.
4. Press **Up** or **Down** to change the relay configuration and then press **Select**.
5. Press **Back** to return to the Configuration menu.
6. Repeat steps 2 to 5 for each relay you want to configure and then press **Back** to return to the Main menu.







Programming the CCU

Programming the CCU means telling it how you want it to control the equipment. Programming consists of four steps.

- Programming the temperature settings (on page 18)
- Programming the humidity bypass (on page 19)
- Programming the active time (on page 20)
- Programming the active days (on page 21)

How the CCU settings work

This example has a fan connected to relay 1 and a pump connected to relay 2. The settings are as follows:

Item	Configuration/Settings	
Active days	Monday to Saturday: Sunday:	Yes No
Active time	Start time: Stop Time:	09:00 21:00
Temperature settings	Set point: Hysteresis:	80.0°F 2.0°F
Humidity bypass	Set point: Hysteresis:	90% 5%

- **Active days**—the control operates Monday to Saturday. The control does not operate on Sunday.
- **Active time**—the control operates between 09:00 and 21:00 (9:00 AM and 9:00 PM) on each of the active days. The control does not operate after 21:00 and before 09:00.
- **Temperature settings**—the hysteresis forms a 'temperature buffer' below the temperature set point: (80.0 - 2.0 = 78.0°F).

  When the temperature is below 78.0°F, the fan and pump are off. When the temperature rises above 80.0°, the fan and pump switch on.
- **Humidity bypass** —the hysteresis forms a 'humidity buffer' below the humidity set point: (90 – 5 = 85%).

  When the humidity is below 85%, the pump operates according to the temperature settings. When the humidity is above 90%, the pump does not operate. The fan is not affected by the humidity bypass settings.

Programming the temperature settings

Temperature settings include the set point and hysteresis. The set point is the temperature at which you want the relays to switch the equipment ON or OFF. The relays switch ON when the temperature rises above the set point and switch OFF when the temperature drops below the set point.

Hysteresis is a 'temperature buffer' that helps avoid damage to the relays and equipment connected to them by preventing the relays from switching ON and OFF rapidly when the temperature is close to the set point. For example, a household thermostat might switch on a furnace at 69°F when the house is cooling down, but switch it off at 72°F when the house is warming up. The difference between these two values and the set point is the hysteresis.

To program temperature settings

1. Scroll to the Settings menu and then press **Select**.
2. Scroll to `Temp Control` and then press **Select**.
3. Scroll to `Set point` and then press **Select**.
4. Press **Up** or **Down** to adjust the temperature and then press **Select**.
5. Scroll to `Hyst` and then press **Select**.
6. Press **Up** or **Down** to adjust the hysteresis and then press **Select**.
7. Press **Back** twice to return to the Main menu.

Programming the humidity bypass

The humidity bypass allows you to program the CCU to bypass the pump operation when humidity levels are too high.

The humidity bypass affects only equipment connected to a relay that is configured for pump control.

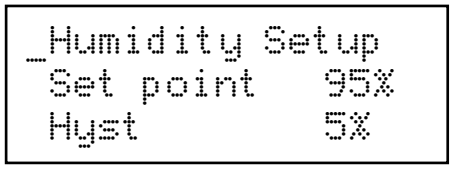
The humidity bypass does not affect equipment connected to a relay that is configured for fan control.

Humidity settings include the set point and hysteresis. The set point is the humidity above which a pump relay will not operate. For example, you can set the CCU to bypass the pump operation if the humidity is over 95%. Fans relays will operate normally, but pump relays will remain off.

Hysteresis is a 'humidity buffer' that helps avoid damage to the relays and equipment connected to them by preventing the relays from switching ON and OFF rapidly when the humidity is close to the set point.

To program the humidity bypass

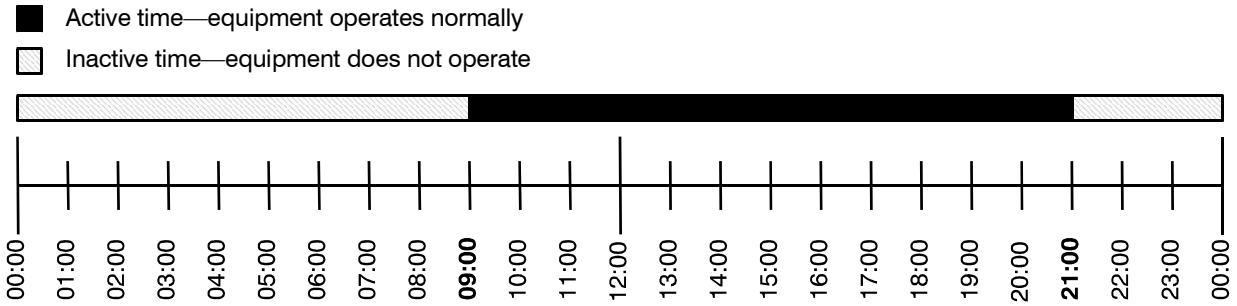
1. Scroll to the Settings menu and then press **Select**.
2. Scroll to Humidity and then press **Select**.
3. Scroll to Set point and then press **Select**.
4. Press **Up** or **Down** to adjust the percentage and then press **Select**.
5. Scroll to Hyst and then press **Select**.
6. Press **Up** or **Down** to adjust the percentage and then press **Select**.
7. Press **Back** twice to return to the Main menu.



Programming the active time

Active time settings allow you to program the CCU to operate the evaporative cooling equipment only during a certain range of hours during the day.

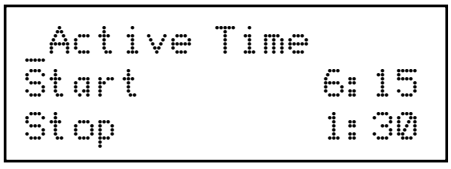
For example, if you set the start time to 09:00 and the stop time to 21:00, the CCU operates all equipment normally during those hours. Between 21:00 and 09:00, the CCU would not operate the equipment.



To program the active time

The CCU uses 24-hour time. For a table of common standard times and their 24-hour equivalents, see **Setting the clock** on page 12.

1. Scroll to the Settings menu and then press **Select**.
2. Scroll to `Active Time` and then press **Select**.
3. Scroll to `Start` and then press **Select**.
   The cursor moves to the hour position.
4. Press **Up** or **Down** to adjust the hour and then press **Select**. Repeat for the minutes.
5. Repeat steps 3 and 4 for the Stop time.
6. Press **Back** twice to return to the Main menu.



Programming the active days

Active days allow you to program the CCU to operate only on certain days of the week. For example, if you do not want to use the control on weekends, you can program the CCU to bypass Saturdays and Sundays.

The default setting is active for all days of the week.

To program the active days

1. Scroll to the Settings menu and then press **Select**.
2. Scroll to Active Days and then press **Select**.
3. Scroll to a day you want to change and then press **Select**.
4. Press **Up** or **Down** to toggle between Yes and No and then press **Select**.
5. Repeat steps 3 and 4 for each day you want to change.
6. Press **Back** twice to return to the Main menu.

Using and maintaining the CCU

After configuring and programming the CCU, your control is ready to do the job you purchased it to do. However, there are other things you can do, such as test equipment using manual mode, and more.

There are four topics in this section:

- Using manual control mode (below)
- Displaying the firmware version (on page 24)
- Loading the factory defaults (on page 24)
- Maintaining the CCU (on page 25)

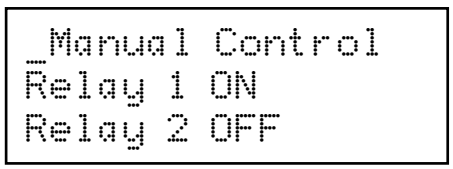
Using manual control mode

Manual control mode allows you to temporarily override the CCU settings and manually switch relays ON or OFF. Manual control mode is useful for when you are performing maintenance or testing equipment.

When you enter manual mode, all relays hold their state (ON or OFF). The relays hold their state until you change them or you exit manual mode. When you exit manual mode, the control returns to normal operation.

To use Manual Control Mode

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to `Manual Control` and then press **Select**.
3. Scroll to a relay you want to change and then press **Select**.
4. Press **Up** or **Down** to toggle the relay state between ON and OFF and then press **Select**.
5. Repeat steps 3 and 4 for each relay you want to change.
6. To exit manual mode, press **Back** until you return to the Maintenance menu.

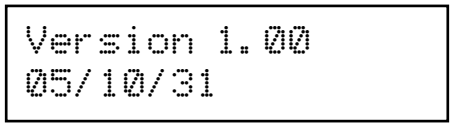


Displaying the firmware version

Firmware is similar to operating system software for a computer. Firmware contains instructions that tell the CCU how it operates. Just like computer operating systems (such as Windows™ XP) have version numbers, the firmware has a version number.

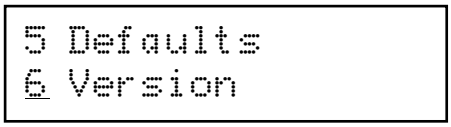
If you need to contact People Misters Customer Support about your CCU, you might need to provide them with the firmware version of your control. For more information about technical support, see **Appendix D: Obtaining service and technical support** on page 32.

When you display the firmware version, the CCU displays a screen similar to the following.



To display the firmware version

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to Version and then press **Select**.
   The CCU displays the version information screen.
3. Press **Back** three times to return to the Main menu.



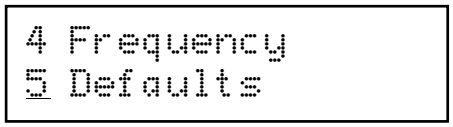
Loading the factory defaults

Loading the factory defaults means restoring all configuration and settings to what they were when you bought the control.

Loading the factory defaults erases *all your configuration and programming*. You will have to reprogram the control.

To load the factory defaults

1. Scroll to the Maintenance menu and then press **Select**.
2. Scroll to `Defaults` and then press **Select**.
   A confirmation display appears.
3. Press **Up** or **Down** to move to the second line and then press **Select**.
4. Press **Up** or **Down** to change the `No` to `Yes` and then press **Select**.
   The CCU loads the factory defaults.



Maintaining the CCU

Proper care and maintenance will help your CCU last longer. To prevent damage to the control, perform the following steps after the first two weeks of operation, and once a year after that.

1. Switch off the power to the control.
2. Remove the cover and check inside for moisture. If there is any moisture, wipe it away using a dry cloth.
3. Check all cable entry points to make sure they are properly sealed. If they are not properly sealed, apply silicone sealant around the entry points.

If you need to seal the enclosure, use a sealant that is labelled as 'non-corrosive', 'electronics grade', or 'neutral cure', such as GE Silicone RTV6780B, RTV 142, or RTV 162.

Do not use a sealant that is labelled as 'acetic acid cure' or 'acetoxy cure'. These sealants release acetic acid while curing, which can damage the CCU and will void the warranty.

4. Check all wires to make sure they are properly connected and that they are in good condition.
5. Fasten the cover to the enclosure and then switch on the power to the control.

Cleaning the CCU

To clean the CCU, wipe the surface with a damp cloth.

DO NOT spray the control using a high-pressure washer, this can damage the control and will void the warranty.

Evidence of moisture damage inside the control will void the warranty.

Appendices

Appendix A: Factory defaults

You can reset the CCU to its factory defaults. For more information, see **Loading the factory defaults** on page 24.

The table below lists the factory defaults for the CCU.

Menu and item	Display items and defaults
Settings→Temp Setup	_Temp Setup Set point 78.0°F Hyst 2.0°F
Settings→Humidity	_Humidity Setup Set point 90% Hyst 5%
Settings→Active Time	_Active Time Start 6:15 Stop 21:30
Settings→Active Days	_Active Days Monday Yes Tuesday Yes Wednesday Yes Thursday Yes Friday Yes Saturday Yes Sunday Yes
Maintenance→Temp Units	_Temp Units Fahrenheit
Maintenance→Frequency	_Frequency 60 Hz
Configuration→Relay 1	_RELAY 1 Fan
Configuration→Relay 2	_RELAY 2 Pump

Appendix B: Troubleshooting and warning messages

If you are having problems using the CCU or receive a warning message, look it up in the table below and then follow the instructions to resolve the problem.

If you have a problem that is not listed here, try to determine what might be causing the problem. If you cannot resolve the problem, call your dealer or People Misters' Customer Support (see **Appendix D: Obtaining service and technical support** on page 32.)

Problem/message	Possible cause	Resolution
The fan doesn't switch OFF/ON until after a large change in temperature.	The hysteresis is too large.	Decrease the hysteresis setting. For more information, see **Programming the temperature** settings on page 18.
The fan switches OFF/ON too often or continuously.	The hysteresis is too small.	Increase the hysteresis setting. For more information, see **Programming the temperature** settings on page 18.
The display does not light up or display text.	There is no power.	Make sure there is power to the unit.
	The ribbon cable is not connected.	Make sure the ribbon cable is connected. For more information, see **Installing the CCU** on page 5.
	The 115/230 VAC switch is in the wrong position.	Switch off the power, set switch to the correct setting, and then switch on the power.
	The incoming power fuse (F2) is missing or blown.	Check why the fuse was blown and repair any problems. Replace the fuse.
The temperature is displaying as: -----	The probe is damaged or disconnected.	If the probe is disconnected, reconnect it. If the probe is damaged, install a new one. For more information, see **Connecting the humidity sensor** on page 9.
The humidity is displaying as: 0%	The sensor is damaged or disconnected.	If the sensor is disconnected, reconnect it. If the sensor is damaged, install a new one. For more information, see **Connecting the humidity sensor** on page 9.

Problem/message	Possible cause	Resolution
The date or time is not correct.	Daylight savings	Adjust the date or time. For more information, see **Setting the clock** on page 12.
A relay is not operating its load.	The wiring is incorrect.	Correct the wiring. For more information, see **Connecting equipment to the terminals** on page 8.
	There is no power to the load.	Switch on or connect the power.
	The equipment is damaged or faulty	Replace the equipment.
	The circuit breaker is open.	Reset the circuit breaker.
	For relay 2, the fuse (F4) is missing or blown.	Check why the fuse was blown and repair any problems. Replace the fuse.
	The relay is blown.	Solve the problem that caused the relay to blow and then replace the circuit board using a kit.

Appendix C: Glossary

AC	Alternating current
active time	The range of hours of the day where the equipment operates according to programmed settings. For example, if you set the start time to 12:00 and the stop time to 20:00, the CCU operates all equipment normally during those hours. Between 20:00 and 12:00, the CCU would not operate the evaporative cooling equipment.
evaporative cooling	Cooling achieved by evaporating water vapor in the air. Water vapor is placed in the air by misters or foggers. As the tiny water droplets evaporate, they remove heat from the air.
firmware	The internal program instructions that tell the CCU how it operates.
humidity bypass	See *humidity set point*.
humidity hysteresis	A 'humidity buffer' that helps avoid damage to the relays and equipment connected to them by preventing the relays from switching ON and OFF rapidly when the humidity is close to the set point. See also *temperature hysteresis*.
humidity sensor	The sensor for monitoring relative humidity. Also called Relative Humidity Sensor (RHS).
humidity set point	For humidity bypass, the humidity above which a pump relay will not operate. For example, you can set the CCU to bypass the pump operation if the humidity is over 95%. Fans relays will operate normally, but pump relays will remain off.
hysteresis	See *humidity hysteresis* or *temperature hysteresis*.
relative humidity	The quantity of water vapor the air contains compared to the maximum amount it can hold at that particular temperature. For example, a relative humidity of 60% means the air contains 60% of the maximum moisture it can contain at the present temperature. The warmer the air, the more moisture it can hold.

relay	An electromagnetic switch that is either ON (closed) or OFF (open).
sensor	See humidity sensor.
set point	See *humidity set point* or *temperature set point*.
start time	The beginning of the active time range of the day. See also *active time*.
stop time	The end of the active time range of the day. See also *active time*.
temperature hysteresis	A 'temperature buffer' that helps avoid damage to the relays and equipment connected to them by preventing the relays from switching ON and OFF rapidly when the temperature is close to the set point. For example, a household thermostat might switch on a furnace at 69°F when the house is cooling down, but switch it off at 72°F when the house is warming up. The difference between these values and the set point is the hysteresis.
temperature set point	The temperature at which the relays switches ON or OFF. The relays switch ON when the temperature rises above the set point and switch OFF when the temperature drops below the set point.
terminal block	The part of your control where you connect the wires for incoming power, pumps, fans, and so on.
VAC	Volts of alternating current
voltage	Electromotive force or potential difference, usually expressed in volts.

Appendix D: Obtaining service and technical support

Your dealer will be happy to answer all technical questions. If the CCU needs service after the warranty has expired, contact your dealer.

Before contacting your dealer or People Misters, check the following:

- Serial number _____ (See **CCU layout** on page 6.)
- A description of the problem
- A description of what you were doing when the problem occurred

My dealer's name: _____

How to contact my dealer:

Street/PO Box _____

City _____

State/Province _____

Zip/Postal _____

Phone _____

Fax _____

E-mail _____

Web site _____

PEOPLE Misters INTERNATIONAL

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E-mail info@peoplemisters.com
Web site www.peoplemisters.com

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Limited warranty

This warranty applies only to the Phason Inc. (Phason) CCU Complete Control Unit (CCU). If you need warranty service, return the product and original proof of purchase to your dealer.

Phason warrants the CCU subject to the following terms and conditions.

This warranty is valid only to the original purchaser of the product, for two years from the manufacturing date. The manufacturing date is stated in the first eight digits of the serial number in the form year-month-day.

Phason hereby warrants that should this product fail because of improper workmanship, Phason will repair the unit, effecting all necessary parts replacements without charge for either parts or labor.

Conditions

Installation must be done according to our enclosed installation instructions.

The product must not have been previously altered, modified, or repaired by anyone other than Phason.

The product must not have been involved in an accident, misused, abused, or operated or installed contrary to the instructions in our user and/or installation manuals. Phason's opinion about these items is final.

The person requesting warranty service must be the original purchaser of the unit, and provide proof of purchase upon request.

All transportation charges for products submitted for warranty must be paid by the purchaser.

Except to the extent prohibited by applicable law, no other warranties, whether expressed or implied, including warranties of merchantability and fitness for a particular purpose, shall apply to this product. Any implied warranties are excluded.

Phason is not liable for consequential damages caused by this product.

Phason does not assume or authorize any representatives, or other people, to assume any obligations or liabilities, other than those specifically stated in this warranty.

Phason reserves the right to improve or alter the CCU without notice.

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